

642-412BL

Blue

Dart Aerospace Ltd.

Date: Monday, 17/11/2008 10:33:54 AM
 User: Julie Dawson

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	206 L HIGH GEAR SKIDTUBE
Job Number :	43465A	Part Number :	D206642441
Estimate Number :	10522	Drawing Number :	D2650 REV E
P.O. Number :		Project Number :	
This Issue :	17/11/2008	S.O. No. :	
Prsht Rev. :	NC	Drawing Revision :	E
First Issue :	1/1	Type :	SKIDTUBES
Previous Run :	41733A	Material :	
Written By :		Due Date :	15/12/2008
Checked & Approved By :	JULIO 08-11-17	Qty:	1 Um: Each
Comment :	Est Rev: H 05.10.11 Added D3429-1 per CHG002 KJ/CP/JLM Est Rev: I 08-05-01 add QC3 DD verified by: EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels per PPP D206-642-441 CHG002

N/A

2.0	D2620	Skidtube, 206 Skidtube
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number	Description	Batch
1 D2620	Bent Tube 3" OD	42769

Jb 8-11-18

3.0	D2647	Cap
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number	Description	Batch
1 D2647	Fwd Cap	235475 BE 8-11-18

4.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1

1-Deburr Fwd edge of tube

2-Remove ridge on inside of Fwd edge of tube as per Dwg D2650

3-Weld Fwd Cap as per Dwg D2650. Use Aluminum rod. Grind D2647 to fit as required.

A/R Aluminum Rod m109813/m109213 BE 8-11-18

4-Grind weld flush to cap on top surface only.

BE 8-11-18

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Part Number: D206642441

Job Number:



Seq. #:

Machine Or Operation:

Description :

5-Cut aft end 138.60" from front of tube

6-Drill pilot holes using drill jig DT8025 & DT8169 (A,B,C,D). Open to Ø0.312".

7-Drill holes for wearplates using DT 8028-7. Open to Ø 0.297".

8-Open using #6 Drill Bit

9-Open holes for Tow Ring to Ø0.625" as per Dwg D2650, D2650-7 Drilling Detail

10-Remove inner indexing ridge on aft end of skidtube as per Dwg D2650

11-Deburr and Blow out all chips from inside the tube

Job 8-11-18

Job 8-11-18

5.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

Job 8-11-19

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

Job 8-11-19

7.0

D26547

Web



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

*

Qty Part Number

Description

Batch

1 D2654-7

Web

B43507

1

Job 8-11-19

8.0

SKIDTUBES 1

SKIDTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open holes to finished size as per Dwg D2650, D2650-7 Drilling Detail (without cutting fluid)

2-Countersink crossbolt spacer holes as per Dwg D2650(without cutting fluid)

3-Deburr. Blow out chips. Grind alodine off around crossbolt spacer.

4-Bond D2654-7 web in place as per QSI 015 Ensure holes line up Allow 12 Hrs. cure time before cutting

Start Date: 8-11-19 Time: 3:40

Finish Date: 8/11/20 Time: 8:30 AM

Job 8-11-19

Job 8-11-19

Date: Monday, 17/11/2008 10:33:54 AM
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206 L HIGH GEAR SKIDTUBE

Job Number: 43465A

Part Number: D206642441

Job Number:



Seq. #:

Machine Or Operation:

Description :

A/R Sikaflex-291

Sikaflex expiry date:

M109449
8-11-30

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5 08/11/20 (40)

10.0

D2649

Cross Bolt Spacer



Comment: Qty.: 23.0000 Each(s)/Unit Total : 23.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

23 D2649

Crossbolt spacer

B42632 B42632 (23) M 8-11-20

11.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Insert cross bolt spacers D2649. Weld as per QSI 004 and Dwg D2650. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

A/R

Aluminum Rod

M109213 BE 8-11-20

2-Grind welds flush as per Dwg D2650. Masking Tape access to inside of the Skidtube

JD 8-11-25

3-Counterbore 5/16" x 0.750" deep as per Dwg D2650Debur

12.0

D2680041

Nut Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2680-041

Nut Plate

34599

JD 8-11-26

13.0

CCR264SS33

Cherry Rivet



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

2 CCR264SS3-3

Rivets

109401

JD 8-11-26

Date: Monday, 17/11/2008 10:33:54 AM
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Process Sheet

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Drawing Name: 206 L HIGH GEAR SKIDTUBE

Job Number: 43465A

Part Number: D206642441

Job Number:



Seq. #: Machine Or Operation: Description:

14.0 M7885343 Rivet



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)
Pick:

Qty Part Number Description Batch
2 M7885/3-4-3 Rivets 106167

JD 8-11-26

15.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1
Install D2680-041 Nut Plate as per Dwg D2650

JD 8-11-26

16.0 QC10 VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

Sos 11/22 (80)

17.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S sos 11/26 (80)

18.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1
Pressure wash as per QSI 005

+ TOUCH-UP Alodine

91

08-11-26 (80)

19.0 SPRAY PAINTING SPRAY PAINTING



Comment:

-PRIME GREY B 10992
-SPRAY PAINT DELFLEET BLUE B 105918
-CLEAR DELFLEET B 109816

ml 08 11 27 (1)

20.0 QC14 INSPECT SPRAY PAINT



Comment: INSPECT SPRAY PAINT

08-12-01 (1)

21.0 D26483 Wearpad



Comment: Qty.: 6.0000 Each(s)/Unit Total: 6.0000 Each(s)
Pick:

Qty Part Number Description Batch
6 D2648-3 Wearpad (4x) B 41735 / (2x) 42361



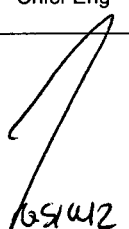
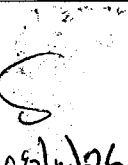
08-12-03 (1)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D206-642-441 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR: <u>43465A</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
06/12/26	#17	During inspection found one Rivet installed in the nut plate to have the stem broken off about 0.100" in size.		Drill out incorrectly installed Rivet. AND Replace CR32 R4-B BA 106167	JD 08-11-26			
		R.C. Process -> happens on occasion.						

NOTE: Date & initial all entries

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Part Number: D206642441

Job Number:



Seq. #:

Machine Or Operation:

Description :

22.0

D265615

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D2656-15

Wearshoe 1341125

JS

23.0

D265623

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D2656-23

Wearshoe 1341822

JS

24.0

D265637

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D2656-37

Wearshoe 1341634

JS

25.0

D34291

Wearpad



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D3429-1

Wearpad 1242779

JS

26.0

ALS41032130

Insert



Comment: Qty.: 60.0000 Each(s)/Unit Total : 60.0000 Each(s)

Pick:

Qty Part Number

Description Batch

60 ALS4-1032-130

Inserts M105819

or (see QSI 017)

JS

08-12-03

JS

Date: Monday, 17/11/2008 10:33:54 AM
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Process Sheet

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Drawing Name: 206 L HIGH GEAR SKIDTUBE

Job Number: 43465A

Part Number: D206642441

Job Number:



Seq. #:

Machine Or Operation:

Description :

27.0

AN960JD10L

Washer



Comment: Qty.: 62.0000 Each(s)/Unit Total : 62.0000 Each(s)

Pick:

Qty Part Number

Description Batch

60 AN960JD10L

Washer M105793

JS

28.0

MS27039108

Screw



Comment: Qty.: 62.0000 Each(s)/Unit Total : 62.0000 Each(s)

Pick:

Qty Part Number

Description Batch

62 MS27039-1-08

Screw M109061

JS

29.0

D26511

Plug



Comment: Qty.: 22.0000 Each(s)/Unit Total : 22.0000 Each(s)

Pick:

Qty Part Number

Description Batch

22 D2651-1

BLUE

Plugs

B43382

JS

30.0

D26513

O-Ring



Comment: Qty.: 22.0000 Each(s)/Unit Total : 22.0000 Each(s)

Pick:

Qty Part Number

Description Batch

22 D2651-3

O-Rings

B41972

JS

31.0

AN960JD416

Washer



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 AN960JD416

Washer

M108161

JS

08.12.03 (21)

Date: Monday, 17/11/2008 10:33:55 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206 L HIGH GEAR SKIDTUBE

Job Number: 43465A

Part Number: D206642441

Job Number:



Seq. #:	Machine Or Operation:	Description :
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32.0	MS27039406	Screw
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
Pick:

Qty Part Number Description Batch

1 MS27039-4-06 Screw M109061 JH

33.0	D2646	Aft Cap
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
Pick:

Qty Part Number Description Batch

1 D2646 BLUE Aft Cap B343792 JH

34.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearpads as per dwg D2922. Use a drop of Sikaflex inside insert holes before installing wearpad/wearplate.

A/R Sikaflex-291 M109942

Sikaflex expiry date: 08/11

2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D2650. Clean excess adhesive

3-Install MS27039-4-06 Screw as per DEO 9153

4-Inspect for foreign object per QSI 024

5-Install D2646 Aft Cap and seal with SikaflexClean excess adhesive

A/R Sikaflex-291 M109942

Sikaflex expiry date: 08/11

6-Wing Walk as per Dwg D2650-7 and QSI 005 4.4

Batch: M109919

35.0	QC5
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INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

JH 08.12.04 EV
08/10/04

Date: Monday, 17/11/2008 10:33:55 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206 L HIGH GEAR SKIDTUBE

Job Number: 43465A

Part Number: D206642441

Job Number:



Seq. #:

Machine Or Operation:

Description :

36.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

PRP 43465 P- 8/12/2 (C)

37.0

QC21

FINAL INSPECTION/W/O RELEASE



08/12/10 JF

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



mk 08-12-09

QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION
X				D2650-1	SKIDTUBE ASSEMBLY
	X			D2650-3	SKIDTUBE ASSEMBLY
		X		D2650-5	SKIDTUBE ASSEMBLY
			X	D2650-7	SKIDTUBE ASSEMBLY
1	1	1	1	D2600-1-160	EXTRUSION
1				D2654-1	WEB
	1			D2654-3	WEB
		1		D2654-5	WEB
			1	D2654-7	WEB
1	1	1	1	D2646	AFT CAP
1	1	1	1	D2647	CAP
17	18	19	23	D2649	CROSS BOLT SPACER
16	18	14	22	D2651-1	PLUG
16	18	14	22	D2651-3	O-RING
1	1	1	1	D2680-041	NUT PLATE
2	2			D3286-1	DOUBLER
2	2			D3286-3	STUD
42	44	54	60	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, ALS7-1032-130)
2	2	2	2	AN960JD10L	WASHER
2	2	2	2	CCR264SS3-3	RIVET
2	2	2	2	CR3212-4-03	RIVET
2	2	2	2	MS27039-1-08	SCREW
1	1	1	1	MS27039-4-06	SCREW
1	1	1	1	AN960JD416	WASHER
52	52			CR3212-4-04	RIVET

F

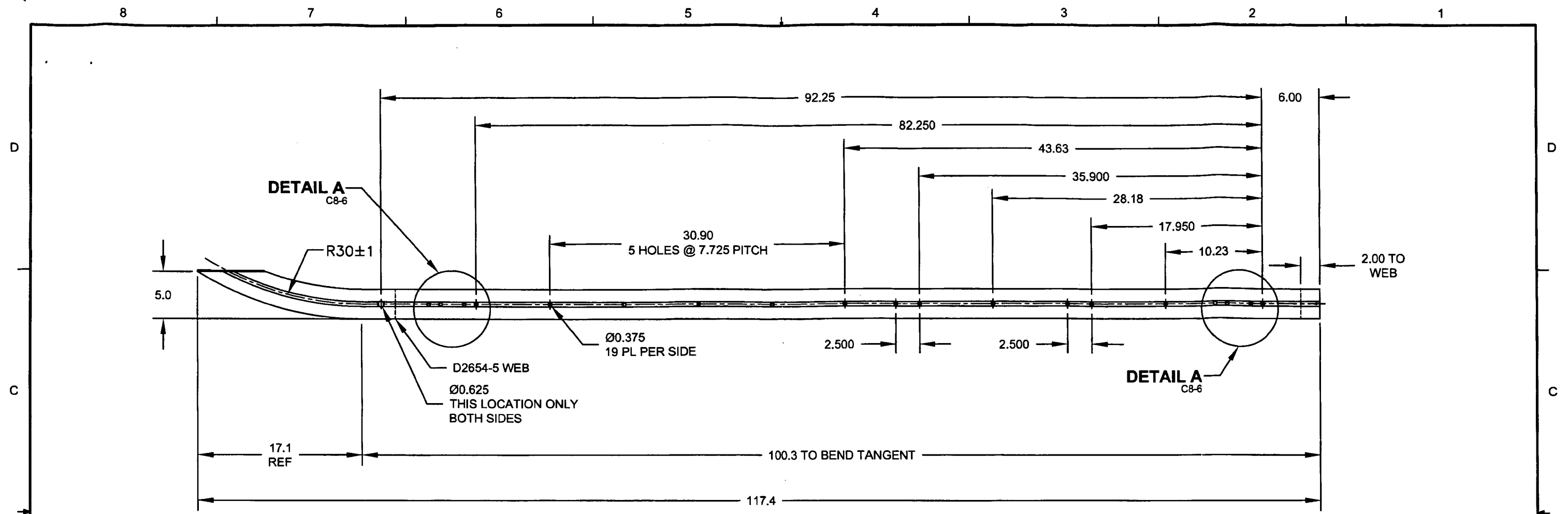
NOTES:

- MATERIAL: N/A
- FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- IDENTIFICATION: NONE
- WEIGHT: N/A
- WELD PER DART QSI 004
- DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)
- DRILL Ø0.297 FOR ALS7-1032-130 INSERTS USING TEMPLATE DT8056-1 ON -1 TUBE, DT8056-3 ON -3 TUBE, DT8056-5 ON -5 TUBE, AND DT8056-7 ON -7 TUBE. INSTALL INSERTS AFTER FINISH.
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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RETURN TO
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 43465A

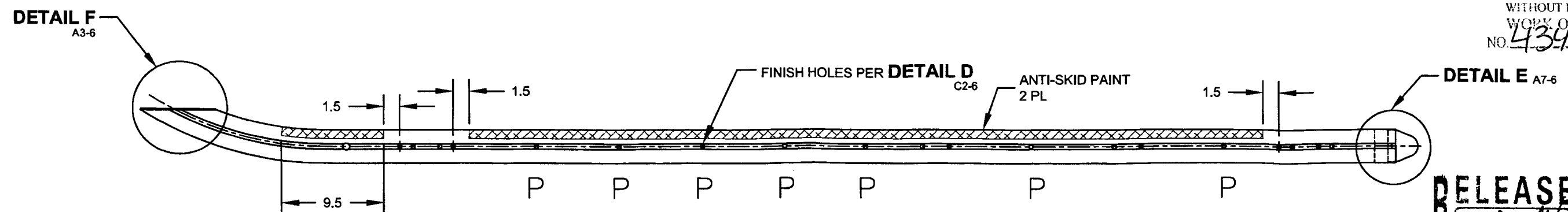
RELEASED
08-07-23 MP

F	DRAWING UPDATED TO CURRENT STANDARDS. SHT 6 ADDED. ALL SECTION AND DETAIL VIEWS TRANSFERRED TO SHT 6. SHT 1 IN PL PART D2649 QTY UPDATED. SHT 6 SECT C-C GRIND INSTRUCTIONS DELETED FROM NOTE 7 (SEE NCR 239).	AJS	08.08.08
E	RMOVE CBORE, CHG DRILL, ADD CHAMFER	CP	06.03.30
D	REDRAW; INCCRP. DE09136/9153/9163 MOD GROUND HANDLING ON D2650-1/-3	CP	04.05.17
C	CHANGE HOLE PATTERN AND FRONT END	DS	97.10.29
B	AS MANUFACTURED CHANGES	DS	97.06.26
A	NEW ISSUE	DS	97.03.25
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 1 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



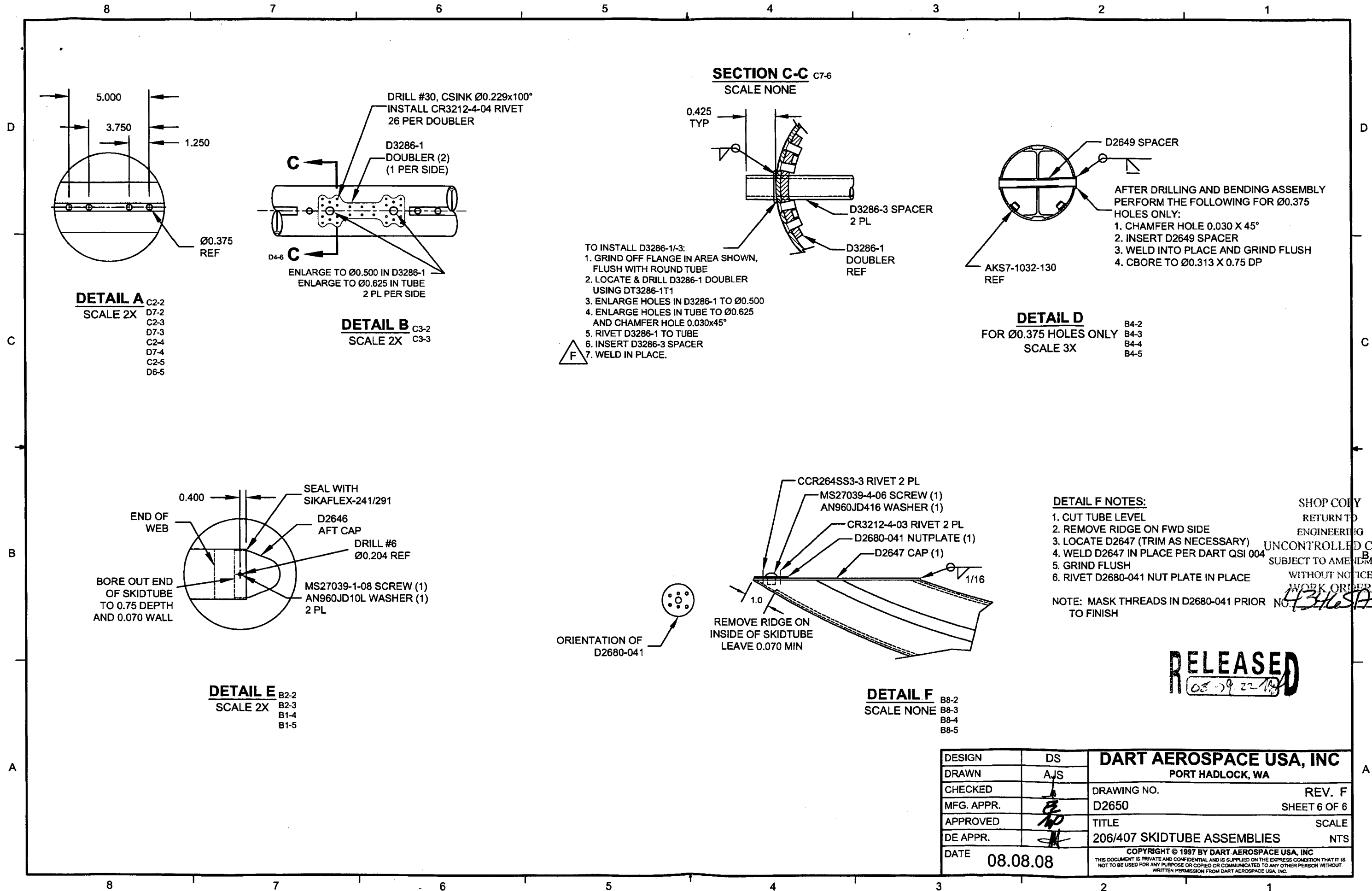
D2650-5 BENDING/DRILLING DETAIL

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WITHOUT NOTICE
WORK ORDER
NO. 43465A



D2650-5 ASSEMBLY/FINISHING DETAIL

DESIGN	DS	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	AJS		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>[Signature]</i>	D2650	SHEET 4 OF 6
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	206/407 SKIDTUBE ASSEMBLIES	NTS
DATE 08.08.08		COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



NO. 180

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliot
Job number: B42582-A
Part number: A206-642-441
Description: 206 Skid tube
Welding Process: Tig[☒] Mig[]
Base material: Alum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier David Qual Date of Test Coupon 08/10/30
Welder Barclay Elliot Date of Test Coupon 08/10/30

The above named individual is qualified in accordance with AWS D17.1.2001 to weld